ABSTRACT

The object of the present invention is to provide a method for solving the problem of surface damage due to gallium ion irradiation that poses a problem when carrying out mask repair using currently established FIB techniques, and the problem of residual gallium, and to provide a device realizing this method. The device of the present invention has an electron beam lens barrel that can carry out processing, as well as an FIB lens barrel, provided inside the same sample chamber, which means that a mask repair method of the present invention, in correction processing to remove redundant sections such as a mask opaque defect, phase shift film bump defect or a glass substrate cut remnant defect, comprises a step of coarse correction by etching using a focused ion beam and a step of finishing processing using an electron beam, to remove surface damage due to gallium irradiation, and residual gallium.